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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/605,142	09/10/2003	Gerhard E. Seidel	BOE 0453 PA	2141

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EXAMINER

SUKMAN, GABRIEL S

ART UNIT PAPER NUMBER

3641

DATE MAILED: 03/02/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/605,142

Applicant(s)

SEIDEL, GERHARD E.

Examiner

Gabriel S. Sukman

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 17 December 2004.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-20 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-20 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 17 February 2004 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

DETAILED ACTION

Drawings

The drawings are objected to under 37 CFR 1.83(a). The drawings must show every feature of the invention specified in the claims. Therefore, the elongated cylindrical section positioned above the elongated C section (claim 20) must be shown or the feature(s) canceled from the claim(s). No new matter should be entered. **It is noted that this objection is subject to the rejection of claim 20, below, under § 112, first paragraph. If that rejection cannot be overcome, then this objection is moot; if that rejection is overcome, then this objection to the drawings must be addressed.**

Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as "amended." If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner,

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the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

Specification

The amendment filed 17 December 2004 is objected to under 35 U.S.C. 132 because it introduces new matter into the disclosure. 35 U.S.C. 132 states that no amendment shall introduce new matter into the disclosure of the invention. The added material which is not supported by the original disclosure is as follows: the amendments to paragraphs [0027], [0030], [0031], and [0032]. Where a provisional application is not incorporated by reference into the non-provisional application, the incorporation of matter disclosed in the provisional application but not originally disclosed in the non-provisional application is considered to be new matter. See MPEP § 608.01(p). It is noted, however, that the fuselage having a peanut cross section is not considered to be new matter as such a feature is apparent from the drawings as originally filed.

Applicant is required to cancel the new matter in the reply to this Office Action.

Claim Rejections - 35 USC § 112

The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

Claims 18 and 20 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter

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which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention. The originally filed application does not discuss that fuel may be shuttled within a plurality of fuel tanks in the cylindrical sections (such a feature is, however, taught by Roeder) and does not discuss the configuration in which the elongated cylindrical section is positioned above the elongated C section.

Claim Rejections - 35 USC § 102

The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

Claims 1, 3, 5, and 7 are rejected under 35 U.S.C. 102(e) as being anticipated by U.S. Patent No. 6,422,514 B1 to Clark et al. (hereinafter referred to as Clark).

Claims 1, 3, 5, and 7 are rejected as stated in the previous Office Action.

Claims 1, 2, 8, 9, and 14 are rejected under 35 U.S.C. 102(e) as being anticipated by U.S. Patent No. 6,394,392 B1 to Lafferty.

Claims 1 and 2 are rejected as stated in the previous Office Action.

Lafferty additionally teaches the limitations of claims 8 and 9 since the cylindrical sections are joined side-by-side and since the section has at least one passenger cabin therein.

Claim 14 is anticipated by Lafferty as well since figure 10 depicts the aircraft having a peanut shaped cross-section made up of, for instance, elements 12 and 14.

Claims 1, 2, 4, 8, 9, 11, 12, 15, 16, 18, and 19 are rejected under 35 U.S.C. 102(b) as being anticipated by U.S. Patent No. 5,086,996 to Roeder et al. (hereinafter referred to as Roeder).

Claims 1, 2, and 4 are rejected as stated in the previous Office Action.

Claims 8 and 9 are clearly anticipated by Roeder since the two cylindrical sections are joined side-by-side and have a passenger cabin therein.

Claim 11 is anticipated by Roeder as per the discussion of claim 4 in the previous Office Action.

Claim 12 is clearly anticipated by figure 2A and 2B of Roeder.

Claim 15 is anticipated by Roeder since each of the elongated cylindrical sections are taught by Roeder (see figures 4 and 4A). Either one of the sections is clearly an elongated "C section" and the other is clearly "substantially cylindrical," even if not fully cylindrical.

Claim 16 is clearly anticipated by the passenger cabin depicted in figure 4 of Roeder.

Claim 18 is anticipated by Roeder as per the discussion regarding claim 4 in the previous Office Action.

Claim 19 is clearly anticipated by the cross-section of the aircraft of Roeder.

Claim Rejections - 35 USC § 103

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The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claim 6 is rejected under 35 U.S.C. 103(a) as being unpatentable over Lafferty in view of U.S. Patent No. 3,405,893 to Flamand et al. (hereinafter referred to as Flamand).

Lafferty discloses all of the limitations of claim 6, as discussed above, except for teaching that the main wing is positioned on top of the fuselage. Flamand discloses a bi-lobed fuselage, similar to that of Lafferty, and teaches that the main wing is positioned on top of the fuselage. Flamand teaches several advantages to this configuration such as "on the one hand the flat-fuselage-high wing interaction improves the hyper-sustentation and leads, for a given approach speed, to a reduction in the surface of the wings, and on the other hand, the fatigue resistance of the fuselage structure is increased because the only openings formed are those necessitated by the landing gear bays" (col. 2, lines 27-35). It therefore would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the invention of Lafferty by positioning the main wings on the top of the fuselage as taught by Flamand in order to take advantage of the benefits of such a design as enumerated by Flamand and cited herein.

Claims 10, 13, and 17 are rejected under 35 U.S.C. 103(a) as being unpatentable over Roeder in view of the Hydrogen Newsletter Summer 1996: Hydrogen Fuel Standards (<http://www.hydrogenus.com/advocate/ad12isof.htm>; hereinafter referred to as the "NHA Newsletter").

Roeder discloses all of the limitations of claims 10, 13, and 17 except for specifying that the fuel tank may be used to hold liquid hydrogen or another non-hydrocarbon fuel as the aircraft fuel. But the NHA Newsletter, published in 1996, informs of plans of aerospace organizations to put standards in place to accommodate aircraft and other vehicles using hydrogen as fuel as opposed to hydrocarbon fuel. It is further described that compressed (pressurized) liquid hydrogen (Type II) is to be used for aircraft and space vehicle onboard propulsion and electrical energy requirements and that such a transition would occur on existing facilities. Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to substitute pressurized liquid hydrogen as the fuel for the aircraft of Roeder instead of a hydrocarbon fuel because the use of liquid hydrogen as fuel for aircraft and spacecraft is well known in the art as is evident by the NHA Newsletter and since hydrogen fuel has significant benefits as compared to a hydrocarbon fuel such as renewability, efficiency, and improved emissions.

Response to Arguments

Applicant's arguments filed 17 December 2004 have been fully considered but they are not persuasive.

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Applicant first argues that claim 1 is not anticipated by Clark because Clark does not teach an "aircraft" but instead discloses a "spacecraft" that uses its aerodynamic control surfaces to reach orbit (page 8, lines 1-2 of the response). The examiner believes that applicant's arguments are sufficient in and of themselves to prove the examiner's point. As admitted by Applicant, the craft flies through Earth's atmosphere and uses its aerodynamic control surfaces to control flight and must therefore be an aircraft. Further, Clark repeatedly makes mention of the craft as an "air vehicle" (col. 1, line 13; col. 1, line 16, etc.) and an "aerospace vehicle" which implies that the craft is an aircraft. Further still, the preamble of claim 1 of Clark recites, "A cryogenic propellant fuel tank for a single stage to orbit *aircraft*" (emphasis added).

Applicant next argues that the dashed lines in the figures of Clark that are not described in the specification cannot represent a fuselage, a main wing, at least one vertical stabilizer and at least one horizontal stabilizer. Drawings must be interpreted as to what they reasonably convey to one having ordinary skill in the art. The examiner maintains that the drawings depict a fuselage (body portion, 12), a main wing (large horizontally oriented control surfaces in dashed lines), a vertical stabilizer (vertical control surfaces clearly shown in figure 2 in dashed lines), and at least one horizontal stabilizer (horizontal control surface section located just aft of the chambers 114 and 116 and extending across their width in figure 1 of Clark).

With respect to Applicant's argument that the chambers 112 and 118 of Clark are not joined side-by-side, the examiner merely points to newly added claim 8 as evidence that applicant does not intend for the claim term "side-by-side" in claim 1 to exclude the

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chambers of Clark which are only connected at the forward end and are spaced apart at a rearward end. Since Applicant saw it fit to include the language “joined together side-by-side *along each section’s elongated side*” (emphasis added) in new claim 8, the case must be that Applicant desired to narrow the scope of the language of claim 1 so as to exclude from scope the type of configuration depicted by Clark. Accordingly, the rejection is maintained.

Regarding claim 5, Applicant agrees, for the sake of argument, that Clark discloses two vertical stabilizers (and doesn’t provide any alternative argument as to why it shouldn’t be agreed upon) and suggests that such a position reinforces the argument that Clark does not teach either a main wing or a horizontal stabilizer. No further argument is provided. It is entirely unclear to the examiner how the identification of two *vertical* stabilizers (one of which is visible **only** in figure 2) has any bearing whatsoever on the identification of either a main wing or *horizontal* stabilizer since those structures are *horizontally* oriented and, as identified above, only visible in figure 1 of Clark. It is maintained that the identification of the control surfaces two paragraphs above is entirely consistent and disclosed as evident to one having ordinary skill in the art by Clark and that Applicant’s previous admissions and concessions support that reasoning.

Applicant then argues, after admitting that Lafferty teaches three fuselages and that at least one of the fuselages may contain fuel, that Lafferty does not teach “two elongated substantially cylindrical sections joined together side-by-side.” It seems that Applicant is relying on a matter of semantics here in labeling the configuration of

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Lafferty as **three fuselages** while it is claimed that there is **a** fuselage with **two** elongated sections. The examiner maintains that the argument is just that – a matter of semantics. There is no structural distinction or nuance in the term “fuselage” that would not allow the invention of Lafferty to be interpreted as a fuselage with three cylindrical sections or to call the instant invention an “aircraft having multiple fuselages” as is the title of the Lafferty patent.

With respect to the Roeder reference, Applicant asserts that Roeder does not “teach or suggest that at least one fuel tank is positioned within one of the elongated substantially cylindrical sections of the fuselage.” The examiner sees it fit here to contrast this assertion with the actual language of the pertinent part of the claim at issue (claim 1): “...one of said sections having at least one fuel tank positioned therein.”

Reserving judgment as to what would happen if the claim actually included the language of the argument, the examiner maintains the position that the disclosure of Roeder does in fact teach a fuel tank located in one of the cylindrical sections. The following passage is considered enough to clearly anticipate the claimed limitation: “In the fuselage according to the invention, arrangements are made to ensure that the central portion of the wing structure 9, which passes through the bilobed fuselage and forms a central wing box *within the lower internal space of said fuselage*, constitutes the limit of a cellular fuel tank 80” (emphasis added; also see col. 11, lines 57-64 and figure 19).

Regarding claim 4 and Roeder, Applicant’s admission that Roeder teaches two fuel tanks and the explanation of the examiner’s reasoning in the discussion above

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concerning claim 1 are sufficient to address Applicant's argument on this matter. See also col. 11, line 57 through col. 12, line 2.

Conclusion

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Gabriel S. Sukman whose telephone number is (703) 308-8508. The examiner can normally be reached on M-F, 8:30-6:00, every other Friday off.

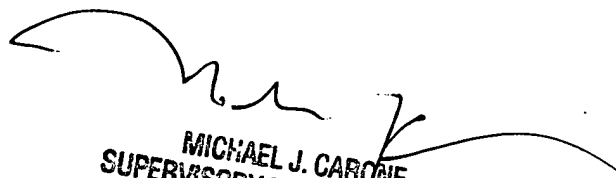
If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Michael J. Carone can be reached on (703) 306-4198. The fax phone

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number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

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MICHAEL J. CARONE
SUPERVISORY PATENT EXAMINER